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STATE OF WASHINGTON

STATE BUILDING CODE COUNCIL

2021 Washington State Energy Code Development Energy Code Proposal Short Form

For editorial **Coordination, Clarifications & Corrections** only,
without substantive energy or cost impacts

Log No. **21-GP1-114**

Code being amended: ☒ **Commercial** Provisions ☐ **Residential** Provisions
(A MS Word version of the code is linked to the name)

Code Section # **C501.2, C503.2, C503.3, C505.1**

Brief Description:

The requirements of a change in space conditioning and a change in occupancy do not fully align with the requirements for an addition (C502) or an alteration (C503). The requirements are technically a blend of the two, however this is not described well in the WSEC. The code requires that spaces undergoing this type of alteration be brought up to full compliance with the current code. However, as currently located within the 2021 WSEC there are elements associated with updating an existing building and systems that the code handles inconsistently between a change in space conditioning and a change in occupancy.

This proposal moves Change in Space Conditioning into Section C505 with Change in Occupancy and expands this section to incorporate all applicable details from Section C502 and C503.

Proposed code change text: (Copy the existing text from the Integrated Draft, linked above, and then use underline for new text and ~~strikeout~~ for text to be deleted.)

C501.2 Compliance. Additions, alterations, repairs, changes in space conditioning and changes of occupancy to, or relocation of, existing buildings and structures shall comply with Sections C502, C503, C504, or C505 of this code and with the all applicable provisions for alterations, repairs, additions and changes of occupancy or relocation, respectively, in the International Building Code, International Existing Building Code, International Fire Code, International Fuel Gas Code, International Mechanical Code, Uniform Plumbing Code, and NFPA 70.

[NOTE – This content is proposed to be relocated to Section C505.]

C503.2 Reserved. Change in space conditioning. ~~Any low energy space in accordance with Section C402.1.1.1 that is altered to become conditioned space or semi-heated space shall be brought into full compliance with this code. Any semi-heated space in accordance with Section C402.1.1.2 that is altered to become conditioned space shall be brought into full compliance with this code. For buildings with more than one space conditioning category, the interior partition walls, ceilings, floors and fenestration that separate space conditioning areas shall comply with the thermal envelope requirements per the area with the highest level of space conditioning. A change in space conditioning project shall be deemed to comply with this code if the project area alone complies or if the existing building and the project area combined comply with this code as a whole building.~~

Exception: Buildings or spaces that were permitted prior to the 2009 WSEC, or were originally permitted as unconditioned, may comply with this section as follows:

1. ~~Where the component performance alternative in Section C402.1.5 is used to demonstrate compliance with this section, the Proposed Total UA is allowed to be up to 110 percent of the Allowable Total UA. This exception may be applied to the project area alone, or to the existing building and project area combined as a whole building.~~

2. ~~Where total building performance in Section C407 is used to demonstrate compliance with this section, the total annual carbon emissions from energy consumption of the proposed design is allowed to be up to 110 percent of the annual carbon emissions from energy consumption allowed by Section C407.3. This exception may be applied to the project area alone, or to the existing building and project area combined as a whole building.~~

C503.3 Building envelope. New building envelope assemblies that are part of the alteration shall comply with Sections C402.1 through C402.5, as applicable.

Exception: Air leakage testing is not required for alterations and repairs, unless the project includes a change in space conditioning according to Section ~~C503.2~~ C505.2 or a change of occupancy ~~or use~~ according to Section ~~C505.1~~ C505.3.

SECTION C505 - CHANGE OF SPACE CONDITIONING, OCCUPANCY OR USE

C505.1 General. Buildings or spaces undergoing a change in space conditioning alteration shall comply with Sections C505.2 and C505.4. Buildings or spaces undergoing a change in occupancy alteration shall comply with Section C505.3 and C505.4. Spaces changing from one use type to another shall comply with C505.5.

Buildings or spaces undergoing a change in space conditioning, change in occupancy or use shall conform to the provisions of this code without requiring the unaltered portion of the existing building to comply with this code. Alterations shall be such that the existing building or structure is no less conforming to the provisions of this code than the existing building or structure was prior to the alteration.

A change in space conditioning alteration shall be deemed to comply if the alteration area alone complies or if the alteration area is combined with all other spaces within the existing building that are of the same space conditioning category according to Section C505.2 to demonstrate compliance. A change in occupancy alteration shall be deemed to comply with this code if the alteration area alone complies or if the existing building and the alteration area are combined to demonstrate compliance for the whole building. This allowance applies to prescriptive compliance in accordance with Section C505.4 or total building performance in accordance with Section C407.

Buildings or spaces that were permitted prior to the 2009 WSEC, or were originally permitted as unconditioned, may comply with this section as follows:

1. Where the component performance alternative in Section C402.1.5 is used to demonstrate compliance with Section C505.4.1, the Proposed Total UA is allowed to be up to 110 percent of the Allowable Total UA. U-factors applied to existing envelope assemblies in the UA calculation shall comply with Section C501.2.1.
2. Where total building performance in Section C407 is used to demonstrate compliance with this section, the total annual carbon emissions from energy consumption of the proposed design is allowed to be 110 percent of the annual carbon emissions from energy consumption allowed by Section C407.3.

[NOTE – Refer to C502 and C503 corrections and clarifications proposal for new Section C505.1.1.]

C505.1.1 Additional energy efficiency credits. Buildings or spaces that are required to comply with Sections C505.2 or C505.3 shall also comply with Section **C502.1.1** in the same manner as an addition.

C505.2 Change in space conditioning. Spaces undergoing a change in space conditioning alteration shall be brought up to full compliance with this code for all disciplines the following cases:

1. Any low energy space in accordance with Section C402.1.1.1 that is altered to become conditioned space or semi-heated space.
2. Any semi-heated space in accordance with Section C402.1.1.2 that is altered to become conditioned space.

For buildings with more than one space conditioning category, the interior partition walls, ceilings, floors and fenestration that separate space conditioning areas shall comply with the thermal envelope requirements per the area with the highest level of space conditioning.

C505.3 Change in occupancy. Spaces undergoing a change in occupancy alteration shall be brought up to full compliance with this code for all disciplines in the following cases:

1. Any space that is converted from an a Group F, S or U occupancy to an occupancy other than Group F, S or U.
2. Any space that is converted to a Group R dwelling unit or portion thereof, from another use or occupancy.
3. Any Group R dwelling unit or portion thereof permitted prior to July 1, 2002, that is converted to a commercial use or occupancy.

[NOTE – This content is proposed to be relocated to Section C505.1.]

Exception: Buildings or spaces that were permitted prior to the 2009 WSEC, or were originally permitted as unconditioned, may comply with this section as follows:

1. ~~Where the component performance alternative in Section C402.1.5 is used to demonstrate compliance with this section, the Proposed Total UA is allowed to be up to 110 percent of the Allowable Total UA. This exception may be applied to the project area alone, or to the existing building and project area combined as a whole building.~~
2. ~~Where total building performance in Section C407 is used to demonstrate compliance with this section, the total annual carbon emissions from energy consumption of the proposed design is allowed to be 110 percent of the annual carbon emissions from energy consumption allowed by Section C407.3. This exception may be applied to the project area alone, or to the existing building and project area combined as a whole building.~~

C505.4 Prescriptive compliance. Change in space conditioning and change in occupancy alterations shall comply with Sections C505.4.1 through C505.4.6.

C505.4.1 Building envelope. Change in space conditioning alterations shall comply with Sections C402.1 through C402.5, C505.4.1.1 and C505.4.1.2. Change in occupancy alterations shall comply with Sections C402.1 through C402.5 and C502.3 in the same manner as an addition.

C505.4.1.1 Vertical fenestration. A change is space conditioning alteration with vertical fenestration shall comply with the following:

1. Where the vertical fenestration area of the alteration combined with the vertical fenestration area of all equivalent space conditioning areas in the existing building results in a total vertical fenestration area that is less than or equal to the maximum allowed per Section C402.4.1, the alteration shall comply with Section C402.4.
2. Where the vertical fenestration area of the alteration combined with the vertical fenestration area of all equivalent space conditioning areas in the existing building results in a total vertical fenestration area that is greater than the maximum allowed per Section C402.4.1, the alteration shall comply with one of the following:
 - 2.1 Component performance alternative with target area adjustment per Section C402.1.5 for the alteration area of the building only.
 - 2.2 Alteration area is combined with all equivalent space conditioning areas to demonstrate compliance with the component performance alternative.
 - 2.3 Total building performance in accordance with Section C407 for the alteration area of the building only.
 - 2.4 Alteration area is combined with all equivalent space conditioning areas to demonstrate total building performance compliance.

C505.4.1.2 Skylights. A change in space conditioning alteration with skylights shall comply with the following:

1. Where the skylight area of the alteration combined with the skylight area of all equivalent space conditioning areas in the existing building results in a total skylight area that is less than or equal to the maximum allowed per Section C402.4.1, the alteration shall comply with Section C402.4.
2. Where the skylight area of the alteration combined with the skylight area of all equivalent space conditioning areas in the existing building results in a total skylight area that is greater than the maximum allowed per Section C402.4.1, the alteration shall comply with one of the following:
 - 2.1 Component performance alternative with target area adjustment per Section C402.1.5 for the alteration area of the building only.

- 2.2 Alteration area is combined with all equivalent space conditioning areas to demonstrate compliance with the component performance alternative.
- 2.3 Total building performance in accordance with Section C407 for the alteration area of the building only.
- 2.4 Alteration area is combined with all equivalent space conditioning areas to demonstrate total building performance compliance.

C505.4.2 Building mechanical systems. All new and existing mechanical systems and equipment that serve the new building heating, cooling and ventilation needs of the alteration area shall comply with Sections C403, C408.2, C409.5 and C501.6.

C505.4.3 Service water heating systems. All new and existing service water-heating systems and equipment that serve the new service water heating needs of the alteration area shall comply with Sections C404, C408.3, C409.5 and C501.6.

C505.4.4 Pools and permanent spas. All new and existing systems and equipment serving pools and permanent spas that are included in the alteration shall comply with Section Sections C404.11, C408.3, C409.5 and C501.6.

C505.4.5 Electrical power and lighting systems and motors. All new and existing electrical power and lighting systems and motors that are included in the alteration shall comply with Sections C405, C408.4, C409.5 and C501.6.

C505.4.6 Refrigeration systems. All new and existing refrigerated spaces and refrigeration systems and equipment that serve the new refrigeration needs of the alteration area shall comply with Sections C410, C408.7, C409.5 and C501.6.

C505.5 Change of use. Where the use in a space changes from one use in Table C405.4.2(1) or (2) to another use in Table C405.4.2(1) or (2), the installed lighting wattage in the space shall comply with Section C405.4 and the ventilation airflow provided to the space shall be in accordance with Chapter 4 of the *International Mechanical Code*.

Purpose of code change:

Revise language to support existing code intent and to improve code language clarity.

These changes are not intended to alter existing code stringency.

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Instructions: For use with Coordination, Clarifications & Corrections ONLY. Send this form as an email attachment, along with any other documentation available, to: sbcc@des.wa.gov. For further information, call the State Building Code Council at 360-407-9277.